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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,028	09/04/2003	Troy J. Tranter	B-379	8489

7590 06/23/2006

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EXAMINER
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JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/656,028

Applicant(s)

TRANTER ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 22-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-16 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruening et al. US 6,232,265.

Regarding claims 1 and 25, Bruening '265 discloses a method for making a selectively binding particulate composition comprising dissolving a mixture of pentaerythritol and Ag/KOH catalyst, adding acrylonitrile and pouring into water; and polymerizing (see Example 3). Bruening further discloses Ag/KOH solution (see Example 3) and one of ordinary skill would expect at least some polymerized acrylonitrile and KOH to remain in the disclosed selective binding composition.

Bruening fails to specifically disclose depositing to form an adsorption medium.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to deposit and form an

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adsorption medium because Bruening discloses particulate solid "supports", which would motivate depositing onto the disclosed support and also because Bruening discloses making a "selectively binding" particulate composition, which would motivate forming an adsorption medium.

Regarding claims 2-5, 8, and 10-12, Bruening '265 discloses Ag/KOH solution (see Example 3).

Regarding claim 7, Bruening '265 discloses nitric acid (see Example 12).

Regarding claims 13-15, Bruening discloses a solid bead support and passing the solution over a column of the particles (abstract).

Regarding claims 26-27, Bruening '265 discloses metal oxides (see claim 4) and pouring into water (see Example 3).

Regarding claim 22, Bruening '265 discloses 42.45g polymerized acrylonitrile, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use 10-85% elemental metal because Bruening '265 discloses 40% Ag/KOH, and removal by filtration, which would obviously, to one of ordinary skill, motivate 10-85% of Ag after removal of liquid by filtration with a balance of polyacrylonitrile.

Regarding claim 6, Bruening discloses magnesium sulfate (see Example 3) and acetic acid (Example 2), which would at least suggest a sulfate or acetate anion.

Regarding claim 9, Bruening discloses 0.80 mole acrylonitrile and 0.10 tetranitrile (see Example 3).

Regarding claims 16 and 23-24, Bruening '265 discloses 40% Ag/KOH, and removal by filtration, which would obviously, to one of ordinary skill, at least motivate 10-85% of Ag after removal of liquid by filtration with a balance of polyacrylonitrile.

***Response to Arguments***

3. Applicant's arguments filed 6/9/06 have been fully considered but they are not persuasive.

It is argued that the Examiner asserts that Bruening discloses... and polymerizing. This is not persuasive because Applicant appears to suggest that polyacrylonitrile cannot be present in "fibers" and "rubber", or that they are somehow mutually exclusive. However, such an assertion appears unsupported by the record. Bruening discloses adding acrylonitrile and pouring into water; and polymerizing (see Example 3). Thus, polymerized acrylonitrile would have been obvious to an ordinarily skilled artisan in view of the prior art disclosure of both acrylonitrile and polymerization.

It is argued that the Examiner also asserts that... *Id.* At pp. 5 and 7. This is not persuasive because it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, it would have been within the purview of one having ordinary skill in the art to use polymerized acrylonitrile because Bruening discloses allowing acrylonitrile to "polymerize completely" (see Example 3, column 9, lines 30-35).

It is argued that furthermore, Applicants maintain that Bruening does not teach... required by independent claim 25. This is not persuasive for the reasons above and also because Applicant appears to admit that "adsorption" is merely an intended use. Bruening '265 further discloses Ag/KOH solution (see Example 3). Thus, both polymerized acrylonitrile and metal hydroxide are disclosed.

It is argued that regarding independent claim 22... "polymerized acrylonitrile". This is not persuasive for the reasons above.

It is argued that furthermore, the Examiner states that it would have been obvious... a balance of polyacrylonitrile. This is not persuasive because it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

#### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic



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Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Edward M. Johnson'.

Edward M. Johnson  
Primary Examiner  
Art Unit 1754

EMJ